

1. A system for securely storing medical data, comprising
an input process allowing an individual to enter identity information and medical
data to associate with the identity information,
5 an encryption key process for providing to each individual an encryption key for
encrypting medical data associated with the individual, and
a data table generator for storing medical data including encrypted medical data,
in a table, whereby stored medical data from different individuals may be encrypted with
different encryption keys.
- 10
2. A system according to claim 1, further comprising
a key table generator for storing the encryption key in a key table.
- 15
3. A system according to claim 1, wherein the input process includes
a private identity generator for generating for an individual a unique private
identity being generated independently of the identity information.
4. A system according to claim 3, wherein the private identity generator includes a
random number generator for generating a random number for the private identity.
- 20
5. A system according to claim 3, wherein the random number generator is selected
from the group consisting of
6. A system according to claim 3, further including
means for employing the private identity as a relational link key for relating medical
data associated with the individual to the encryption key associated with the individual.
- 25
7. A system according to claim 3, wherein the encryption key process includes

a process for generating the encryption key as a function of the private identity.

8. A system according to claim 3 wherein the encryption key process includes
a process for generating the encryption key as an asymmetric function of the
5 private identity.

9. A system according to claim 3 wherein the encryption key process includes
a process for generating the encryption key as a symmetric function of the private
identity.

10 10. A system according to claim 2, further including
a table encryption process for encrypting the key table to secure the encryption key
stored therein.

15 11. A system according to claim 3, further comprising
a relational link generator for processing the private identity to generate a relational link
for associating medical data in the data table with a respective private identity.

20 12. A system according to claim 11, wherein the relational link generator includes a
process for processing the private identity selected from the group consisting of a
symmetric key algorithm, an asymmetric key algorithm, an asymmetric key algorithm,
and a hash algorithm.

25 13. A system for storing medical data, comprising
an input process for allowing an individual to enter identity information and medical
data to associate with the identity information,
a private identity generator for generating independent of the identity information,
a unique private identity for the individual,

an encryption key process for providing to the individual a respective encryption key for encrypting the medical data of the individual,

a relational link generator for providing relational links for the medical data and the encryption key associated with the individual, whereby the medical data and encryption

5 key can be stored in a table of a relational database.

14. A system according to claim 13, wherein the relational link generator includes an encryption process for encrypting a relational link for accessing medical and/or the encryption key.

10

15. A system according to claim 13, wherein the relational link generator includes a hash process for generating a relational link as a hash function of the private identity.

16. A system according to claim 13, wherein the private identity generator includes a
15 random number generator for generating the private identity as a function of a random number.

17. A system according to claim 16, wherein the relational link generator includes a process for encrypting the private identity to provide an encrypted relational link.

20

18. A process for controlling access to medical data, comprising:
allowing an individual to provide medical data and identity information,
providing the individual with a private identity and storing the medical data and identity information in tables of a relational database employing the private identity to
25 provide a relational link to the medical and identity data,
employing the private identity to create an encryption key for the respective individual, and
encrypting, as a function of the encrypting key, medical data associated with the

individual, whereby medical data of different individuals are encrypted with different respective encryption keys.

19. A process according to claim 18, further comprising:

5 allowing a medical professional to search the relational database to identify medical data of interest.

20. A process according to claim 18, further comprising:

allowing a medical professional to request identity information associated with 10 medical data in the relational data base, and employing the private identity to notify the respective individual of the request.

21. A process according to claim 18, further comprising:

allowing the individual to control access to the medical data of the individual.

15 22. A process according to claim 18, further comprising:

allowing the individual to store portions of the medical data in the clear and portions in an encrypted form.

20 23. A process according to claim 22, comprising:

allowing a medical professional to search the relational database.